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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,418	08/24/2001	Daniel J. Dove	10015055-1	4205

7590 02/08/2008 HEWLETT-PACKARD COMPANY Intellectual Property Administration P.O. Box 272400 Fort Collins, CO 80527-2400		EXAMINER HSU, ALPUS
ART UNIT 2619	PAPER NUMBER	
MAIL DATE 02/08/2008	DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/939,418	<b>Applicant(s)</b> DOVE, DANIEL J.	
	<b>Examiner</b> Alpus H. Hsu	<b>Art Unit</b> 2619	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 7, 10 and 11 is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 9, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. Applicant's arguments with respect to claims 1-5, 8, 9, 12 and 13 have been considered but are moot in view of the new ground(s) of rejection.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over BOOTH in U.S. Patent No. 6,065,073 (of record) in view of RUNALDUE et al. in U.S. Patent No. 6,108,726 (cited by the applicant of record).

Referring to claims 1 and 13, by broadly interpreting the combination of the SERDES device, G/MII device and link switch as the claimed apparatus, BOOTH discloses an apparatus and a method for interfacing a media access controller (MAC) and a physical layer device (PHY) for operating as either a gigabit media independent interface or a ten bit interface, and transfer data at a predetermined rate while substantially reducing the required number of input and output pins by sharing signals from two devices on common bus/pins (see col. 12, lines 18-43, 61-66, col. 13, line 48 to col. 14, line 15, col. 14, line 44 to col. 15, line 48, col. 17, line 20 to col. 18, line 17).

BOOTH differs from the claims, in that, it does not specifically show a multiplexer for multiplexing data and control signals that are normally applied to a predetermined number of pins to a significantly lesser number of pins, which is well known in the art and commonly used in communications field for cost reduction.

RUNALDUE, for example, from the similar field of endeavor, teaches the use of a multiplexer (202) for multiplexing data and control signals that are normally applied to a predetermined number of pins to a significantly lesser number of pins (see col. 3, lines 39-47, col. 4, lines 4-59), which can be easily adopted by one of ordinary skill in the art to implement in the apparatus and method in BOOTH to further provide cost savings.

4. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over BOOTH in view of RUNALDUE, as applied to claim 1 above, and further in view of MULLER '362 (of record).

Referring to claim 2, BOOTH in view of RUNALDUE differs from the claim, in that, it does not disclose the multiplexer multiplexes data and control signals using both edges of a clock signal having the predetermined rate, thereby transferring data at the predetermined rate on the lesser number of pins, which is well known in the art and commonly applied for concurrent or parallel control signal processing.

MULLER, for example, from the similar field of endeavor, teaches the multiplexing of data and control signals using both edges of a clock signal having the predetermined rate, thereby transferring data at the predetermined rate on the lesser number of pins (see col. 6, line 66 to col. 7, line 17), which can be easily adopted by one of ordinary skill in the art into the apparatus in BOOTH in view of RUNALDUE to provide concurrent or parallel control signal processing during multiplexing mode to further improve the system efficiency.

Referring to claims 3-5, BOOTH in view of MULLER also fails to disclose the features of specific clock rate range, specific clock input/output skew, and specific duty cycle for the clock signal, which are all well known in the art and commonly used by one of ordinary skill in

the art in the device to fulfill the system requirement by the users or designers, which would have been obvious to one of ordinary skill in the art to implement into the apparatus of BOOTH in view of MULLER to further improve the system reliability and efficiency as desired.

5. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over BOOTH in view of RUNALDUE, as applied to claim 1 above, and further in view of CRAYFORD et al. in U.S. Patent No. 6,704,296 B1, hereinafter referred to as CRAYFORD (newly cited).

Referring to claims 8 and 12, BOOTH in view of RUNALDUE differs from the claims, in that, it does not disclose the feature of applying CRS and COL control signals on a single pin, which is well known and well within the level of ordinary skill in the art to implement.

CRAYFORD, for example, from the similar field of endeavor, teaches the pin count reduction by combining CRS and COL control signals on the same channel/pin (see col. 5, lines 30-53, col. 6, lines 3-57), which can be easily adopted by one of ordinary skill in the art into the device in BOOTH in view of RUNALDUE to provide control signals multiplexing to further improve the system efficiency.

Referring to claim 9, BOOTH in view of RUNALDUE and CRAYFORD fails to disclose a specific number of pins to be reduced, which is well within the level of one ordinary skill in the art to implement in the device to fulfill the system requirement by the users or designers to further improve the system reliability and efficiency as desired.

6. Claims 6, 7, 10 and 11 are allowed.

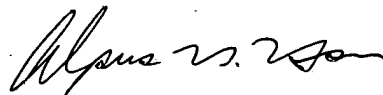
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lo et al. '418, Hoang '585 & '700, and Bray '591 are additionally cited to show the feature of a network interface in switching system for supporting different interfaces with pin count reduction similar to the claimed invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alpus H. Hsu whose telephone number is (571)272-3146. The examiner can normally be reached on M-F (5:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



AHH

Alpus H. Hsu  
Primary Examiner  
Art Unit 2619